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Taxonomy & Inventories

Updated hoverfly (Diptera, Syrphidae) checklist of the Foreste Casentinesi National Park (Italy)

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Abstract

Background

The present faunistic note is an updating of Syrphidae (Diptera) fauna of “Foreste Casentinesi National Park” (Emilia-Romagna and Toscana, Italy), a site of conservation interest included as a focus site within the “National Biodiversity Future Center”, NBFC. The revision combines data from the entomological collection Guido Grandi (UNIBO) and recent records from the national pollinator monitoring programme (Italy).

New information

The new recordings for the National Park, obtained by Malaise traps and entomological net, comprise 25 Syrphidae species, including also new recordings for Toscana and Emilia-Romagna Regions. The updated Syrphidae fauna of the Park includes now 116 species, three of which are included within threatened categories in the Red List of

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European Syrphidae. A typically Alpine fauna is emerging from the Syrphidae species recorded of this revision.

Keywords

Syrphidae (Diptera), Italian fauna, National Park checklist, Lama forest, biodiversity, nature conservation

Introduction

The foundation for any action in biodiversity conservation is to have inventories of specific taxa, based on literature and database updating. By providing information on the place and time of collection, specimens can be used to generate spatio-temporal data on the geographical distribution, phenology and other phenotypic traits of organisms (Kharouba et al. 2019). The enormous potential of natural history collection data for examining insect responses at temporal and spatial scales has been demonstrated, corroborating the importance of biological collections for understanding biodiversity in the Anthropocene (Meier and Dikov 2004, Meineke et al. 2018, Kharouba et al. 2019, Sánchez-Fernández et al. 2022). Dynamic processes of communities and ecosystems across different protection levels can be investigated by using an historical ecology perspective, thus reconstructing biodiversity and ecosystem changes over a timescale from decades to centuries. Biodiversity decline and climate change are considered important emergencies in the current era, thus promoting global interests aimed at conservation actions (Pörtner et al. 2021).

Hoverflies (Diptera, Syrphidae) are an important component of the flower-visiting insect fauna (Rader et al. 2020, Doyle et al. 2020) and have recently been included as a taxonomic group for the EU Pollinator Monitoring Scheme (Potts et al. 2021). Besides the role as pollinators, hoverflies provide other ecosystem services, such as biological control (Rodríguez-Gasol et al. 2020, Pekas et al. 2020, Burgio et al. 2024) and are considered effective bioindicators of natural and anthropogenised environments (Sommaggio 1999), whose use is facilitated by the development of the expert system Syrph the Net (StN) (Speight and Castella 2001). It should be emphasised that updated regional hoverfly lists are required to apply StN and provide effective conservation strategies (Speight 2012). Italy is the second richest country in Europe considering the number of hoverfly species (Reverté et al. 2023); however, little is known about the distribution of hoverflies in Italian regions; some areas, especially in central and southern Italy, are particularly poor in known hoverfly species, indicating a possible underestimation (Sommaggio and Burgio 2004, Sommaggio 2005). In Italy, following previous European initiatives (Potts et al. 2021), a national pollinator monitoring programme has been promoted within national parks, to assess the conservation status of pollinators, including hoverflies (D'Antoni et al. 2020). In light of the above, hoverflies certainly have the characteristics to be considered a fundamental taxon for biodiversity surveillance and ecological habitat assesments. Updating faunistic lists of sites of

conservation importance is crucial for the spatial/temporal evaluation of biodiversity trends and maintain or reinforce conservation measures (Cazzolla Gatti et al. 2023).

The aim of this work is to update the hoverfly fauna of Foreste Casentinesi, Monte Falterona and Campigna National Park (FCNP), an important Italian park of conservation interest, by a revision of material collected over the years and never published. The only published recordings of hoverflies of FCNP are available in Burgio et al. (2000). These historical data have been integrated with new records recently collected from FCNP through the national pollinator monitoring programme, generating a significative revision of the hoverfly fauna.

Materials and methods

The FCNP was established in 1993 and covers an area of 368 km^2, spanning the regions of Emilia Romagna and Toscana. The parks extends over an altitude range of 500 – 1660 m and can therefore be considered mountainous. Forests are the dominant habitat; more than one quarter of all FCNP is covered by beech forest, some of them of great conservation interest, such as Sasso Fratino Forest included in 2017 in the World Heritage Site by the UNESCO Commission (Viciani and Agostini 2009, Viciani and Alberti 2024). From a climatic point of view the area belongs to the temperate oceanic bioclimate and marginally, at lower altitude, to the temperate sub-Mediterranean bioclimate (Padula and Crudele 1988, Pesaresi et al. 2017). This Park has been involved in the national pollinator monitoring programme (D'Antoni et al. 2020), established by Ministero dell'Ambiente e della Sicurezza Energetica and Istituto Superiore per la Protezione e la Ricerca Ambientale. Moreover, FCNP is also included as a focus site within the "National Biodiversity Future Center", NBFC.

The present inventory updating is mostly based on a revision of hoverfly specimens deposited in the "Guido Grandi Collection" (University of Bologna) (Sommaggio 2010) and previously collected within FCNP. Most of the material (354 specimens) deposited in the "Guido Grandi Collection" was collected between 2003 and 2004 using Malaise traps. The traps were set from the first week of May to mid-August in 2003 and from the second week of May to end of July in 2004. Malaise traps were located in "La Lama Forest" (700-1275 m) (Fig. 1). In particular, the following localities were sampled: Fonte Cavalla, 1050 m; Pian della Saporita, 1051 m; Passo della Bertesca, 1275 m; Grigiole, 1003 m; Stazione Vetreria, 720 m; Stazione Prati (Casa Forestale Lama), 700 m (Fig. 1). The study was carried out with the permission and the contribution of the "Ufficio Territoriale per la biodiversità" (Corpo Forestale dello Stato, Pratovacchio, AR Province). A smaller part of the material deposited in "Guido Grandi Collection" (24 hoverfly specimens) was hand-collected between 1984 and 1997 by Guido Campadelli. All specimens are now preserved in the "Guido Grandi Collection", University of Bologna (acronym AMSUB).

The more recent material was collected in 2023 in FCNP with an entomological net in two transects (250 m long), located in Monte Falco (average altitude of 1653 m) and Bucine

(average altitude of 907 m) (Fig. 1). Monte Falco is in the section of the ridge between Toscana and Romagna where almost all the high-altitude meadows of the Park are concentrated. They consist of habitat 6230 of the Rete Natura 2000, with co-occurrence of habitat 4060, by the presence of *Vaccinium* spp. These open areas are surrounded by predominantly pure beech forests (habitat 9130). Bucine transect consists of a mixed forest of oak and hornbeam for about the first quarter of its path and the rest of the path is characterised by a continuum from mixed to pure beech forest, from lower to higher altitude. Then the transect continues in semi-natural pastures with the presence of shrubs (habitat 6210 in prevalence) and also some fruit trees, such as cherries and pears. The applied sampling method followed the protocol of the national pollinator monitoring programme to create baseline data for the evaluation of pollinator trends (D'Antoni et al. 2020). Two transects were selected to study the bee and hoverfly communities: each transect was monitored on one day each month, with surveys conducted every two hours throughout the day. The complete results of this research will be the object of another paper; here, preliminary data have been used to integrate the fauna of FCNP. Transects were visited from May to September 2023; each one was walked one day a month, every two hours from 9 am to 5 pm and they took around 45 minutes to complete. All hoverflies detected along the transect were identified in the field or collected for subsequent identification. Specimens collected and identified are preserved in the collection of FCNP identified with the label PNFCC (Collection of the Foreste Casentinesi, Monte Falterona and Campigna National Park, deposited in Santa Sofia, province of FC).

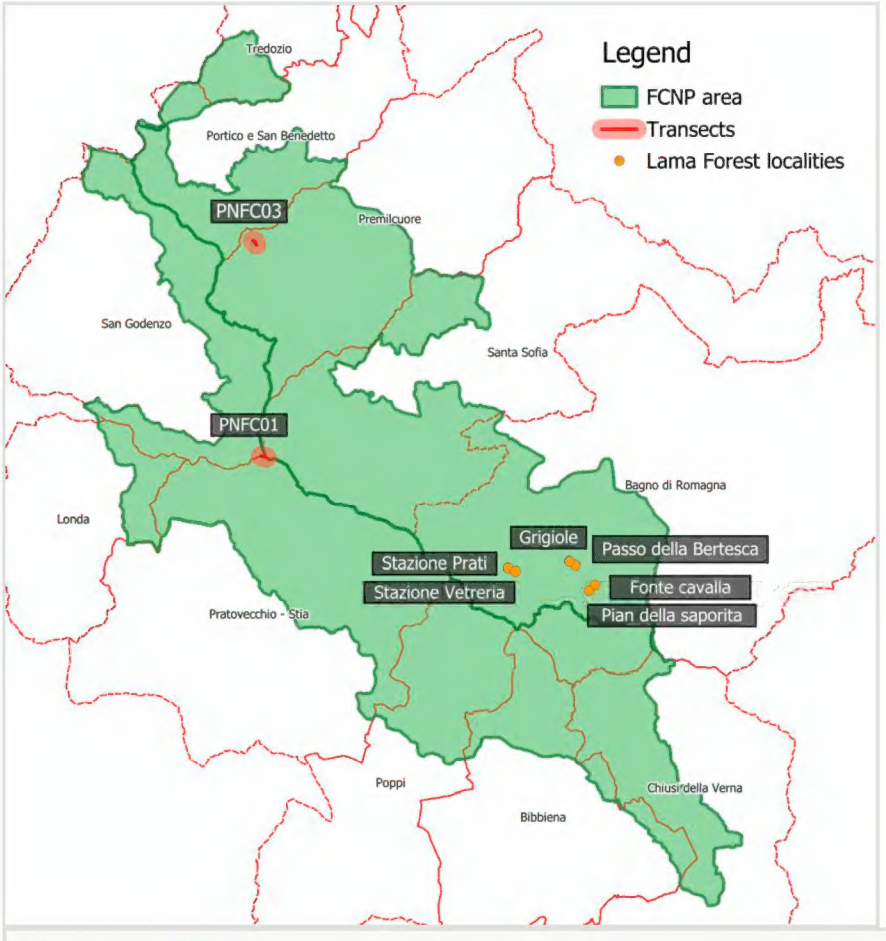

Figure 1. doi

FCNP map and the positions of Malaise traps in 2003/04 (in orange) and permanent transect sampled in 2023 (in red).

Uploaded checklist of PNFC Syrphidae

Baccha elongata (Fabricius, 1775)

Materials

a. scientificName: *Baccha elongata* (Fabricius, 1775); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca (FC); decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005151; occurrenceID: 9B2DAE95-831F-50E3-A0D3-45EAF70CA82D

b. scientificName: *Baccha elongata* (Fabricius, 1775); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria (FC); decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005326; occurrenceID: AC330CAF-CEC2-5E09-AD90-31F5EAD96D0E

c. scientificName: *Baccha elongata* (Fabricius, 1775); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 12.vi.2023; occurrenceID: A92445F1-C70C-5BF7-B468-20640C71AD29

Notes: Recorded in Burgio et al. (2000).

Brachyopa pilosa Collin, 1939

Notes: Recorded in Burgio et al. (2000).

Brachypalpoides lentus (Meigen, 1822)

Notes: Recorded in Burgio et al. (2000).

Brachypalpus laphriformis (Fallén, 1816)

Notes: Recorded in Burgio et al. (2000).

Caliprobola speciosa (Rossi, 1790)

Notes: Recorded in Burgio et al. (2000).

Callicera aurata (Rossi, 1790)

Material

a. scientificName: *Callicera aurata* (Rossi, 1790); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate:

12.viii.2023; sex: 2 females; collectionID: PNFCC000002, PNFCC000003; occurrenceID: 803C8A56-BD12-5329-9CB4-B15C74B97322

Cheilosia barbata Loew, 1857

Materials

a. scientificName: *Cheilosia barbata* Loew, 1857; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Le Culacce (FC); decimalLatitude: 43.8628; decimalLongitude: 11.7527; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 2.viii.1997; sex: 1 female; collectionID: AMSUB005331; occurrenceID: 0802E1A4-AE0E-5BA2-8861-72739F940611

b. scientificName: *Cheilosia barbata* Loew, 1857; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Le Culacce (FC); decimalLatitude: 43.8628; decimalLongitude: 11.7527; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.1996; sex: 1 female; collectionID: AMSUB005332; occurrenceID: AA1FFC89-5754-531B-A8D3-78FA72F1D1F7

c. scientificName: *Cheilosia barbata* Loew, 1857; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Le Culacce (FC); decimalLatitude: 43.8628; decimalLongitude: 11.7527; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.vi.1994; sex: 1 male; collectionID: AMSUB005336; occurrenceID: 72694EAB-A469-5474-BEA2-49654ECE05D2

d. scientificName: *Cheilosia barbata* Loew, 1857; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Campigna (FC); decimalLatitude: 43.8328; decimalLongitude: 11.8114; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 15.vii.1994; sex: 1 female; collectionID: AMSUB005338; occurrenceID: 1998C30D-B050-5FA2-97F2-B1EBFD0D5447

Notes: Recorded in Burgio et al. (2000).

Cheilosia bracusi Vujić & Claussen, 1994

Notes: Recorded in Burgio et al. (2000).

Cheilosia canicularis (Panzer, 1801)

Materials

a. scientificName: *Cheilosia canicularis* (Panzer, 1801); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Piedimonte (FI); decimalLatitude: 44.0924; decimalLongitude: 11.5185; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 20.viii.1994; sex: 1 male, 1 female; collectionID: AMSUB005333, AMSUB005335; occurrenceID: 926F468F-9FCF-563D-BED6-9C7EC252415B

b. scientificName: *Cheilosia canicularis* (Panzer, 1801); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC La Stretta (FC); samplingProtocol: Entomological Net; verbatimEventDate: 18.vii.1993; sex: 1 male; collectionID: AMSUB005339; occurrenceID: D29A2784-299D-5679-9DB2-79B7C440D50C

Notes: Recorded in Burgio et al. (2000).

Cheilosia carbonaria Egger, 1860

Notes: Recorded in Burgio et al. (2000).

Cheilosia himantopus (Panzer, 1798)

Notes: Recorded in Burgio et al. (2000).

Cheilosia impressa Loew, 1840

Materials

a. scientificName: *Cheilosia impressa* Loew, 1840; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Palazzuolo sul Senio (FI); decimalLatitude: 44.1135; decimalLongitude: 11.5468; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: viii.85; sex: 1 male; collectionID: AMSUB005337; occurrenceID: 9BB099A0-A0E3-504B-B045-56177B5F228B

b. scientificName: *Cheilosia impressa* Loew, 1840; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 female; collectionID: PNFCC000004; occurrenceID: 5E1779CE-4061-55B5-8EAF-60A1986931BB

Notes: Recorded in Burgio et al. (2000).

Cheilosia melanura Becker, 1894

Material

a. scientificName: *Cheilosia melanura* Becker, 1894; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI); decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.v.2023; sex: 1 male; collectionID: PNFCC000005; occurrenceID: 368BF39A-37D1-5B82-807E-7CAD8EFB594B

Cheilosia mutabilis (Fallén, 1817)

Notes: Recorded in Burgio et al. (2000).

Cheilosia nigripes (Meigen, 1822)

Material

a. scientificName: *Cheilosia nigripes* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati (FC); decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 female; collectionID: AMSUB005193; occurrenceID: 47F44189-7A2D-50E9-AA6D-3B7F7E6E848A

Notes: Recorded in Burgio et al. (2000).

Cheilosia proxima (Zetterstedt), 1843

Material

a. scientificName: *Cheilosia proxima* (Zetterstedt), 1843; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000006; occurrenceID: DE84A94F-61FC-5F03-9B9E-CB0C714D9818

Cheilosia ranunculi Doczkal, 2000

Material

a. scientificName: *Cheilosia ranunculi* Doczkal, 2000; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 female; collectionID: AMSUB005210; occurrenceID: A5446CAE-905A-5FE6-A538-D3A40248111C

Cheilosia rhynchops Egger, 1860

Material

a. scientificName: *Cheilosia rhynchops* Egger, 1860; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Le Cullacce Campigna m. 1041; decimalLatitude: 43.8628; decimalLongitude: 11.7527; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 18.vi.1994; sex: 1 female; collectionID: AMSUB005334; occurrenceID: C0925109-10A5-5696-ABF5-95E74683B9C0

Notes: Recorded in Burgio et al. (2000).

Cheilosia scutellata (Fallén, 1817)

Notes: Recorded in Burgio et al. (2000).

Cheilosia variabilis (Panzer, 1798)

Materials

a. scientificName: *Cheilosia variabilis* (Panzer, 1798); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000007; occurrenceID: 022010EE-2B24-55AC-8097-B5A48F9A6218

b. scientificName: *Cheilosia variabilis* (Panzer, 1798); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude:

11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 female; collectionID: PNFCC000008; occurrenceID: 63AC05CA-FD15-5988-A4DB-C58E5DA54081

Notes: Recorded in Burgio et al. (2000).

Chrysogaster solstitialis (Fallén, 1817)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum arcuatum (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum bicinctum (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum cautum (Harris, 1776)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum fasciolatum (De Geer, 1776)

Materials

a. scientificName: *Chrysotoxum fasciolatum* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005022; occurrenceID: 43F523F0-6CDE-5A1F-AF05-BECD049B75F1

b. scientificName: *Chrysotoxum fasciolatum* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 male; collectionID: AMSUB005141; occurrenceID: A75580F7-27CF-55A2-A82F-0AC386C7B259

c. scientificName: *Chrysotoxum fasciolatum* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005152; occurrenceID: 92F2A9A7-C623-5534-BBFB-922A82325F72

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum festivum (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum intermedium Meigen, 1822

Materials

a. scientificName: *Chrysotoxum intermedium* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005023; occurrenceID: 5E86A5C0-02EB-5E49-8B79-994436B8AECA

b. scientificName: *Chrysotoxum intermedium* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005027; occurrenceID: 095104DF-FACE-5119-9354-668D788A70E0

c. scientificName: *Chrysotoxum intermedium* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 male, 3 females; collectionID: AMSUB005061, AMSUB005062, AMSUB005063, AMSUB005064; occurrenceID: CC742CC5-5345-56ED-9727-F6370287EE57

Chrysotoxum lessonae (Giglio-Tos, 1890)

Notes: Recorded in Burgio et al. (2000).

Chrysotoxum octomaculatum Curtis, 1837

Material

a. scientificName: *Chrysotoxum octomaculatum* Curtis, 1837; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005153; occurrenceID: 63ADE0B3-F21C-58C2-938B-D94B0C538C53

Chrysotoxum vernale Loew, 1841

Material

a. scientificName: *Chrysotoxum vernale* Loew, 1841; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 female; collectionID: AMSUB005024; occurrenceID: BAAEF134-634F-5D59-B98F-360080FAD9F1

Criorhina asilica (Fallén, 1816)

Notes: Recorded in Burgio et al. (2000).

Criorhina floccosa (Meigen, 1822)

Notes: Recorded in Burgio et al. (2000).

Dasysyrphus albostriatus (Fallén, 1817)

Materials

a. scientificName: *Dasysyrphus albostriatus* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005126; occurrenceID: BB74DF5D-52AA-55A2-8406-1321EF2C7C29

b. scientificName: *Dasysyrphus albostriatus* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005283; occurrenceID: 08CA8071-31EF-5D09-BE6D-607536964F34

Notes: Recorded in Burgio et al. (2000).

Dasysyrphus friulensis (van der Goot, 1960)

Material

a. scientificName: *Dasysyrphus friulensis* (van der Goot, 1960); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Piedimonte (FI) m. 500; decimalLatitude: 44.0924; decimalLongitude: 11.5185; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 15.viii.1994; sex: 1 female; collectionID: AMSUB005347; occurrenceID: 977598ED-51BB-5BC2-9BC3-6A7DECA3FDCF

Dasysyrphus pinastri (De Geer, 1776)

Notes: Recorded in Burgio et al. (2000).

Dasysyrphus tricinctus (Fallén, 1817)

Notes: Recorded in Burgio et al. (2000).

Dasysyrphus venustus (Meigen), 1822

Material

a. scientificName: *Dasysyrphus venustus* (Meigen), 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000009; occurrenceID: 9A3739EE-2CE7-51A0-B84E-D7624E06BF9E

Didea fasciata Macquart, 1843

Material

a. scientificName: *Didea fasciata* Macquart, 1843; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Grigiole 800 m; decimalLatitude: 43.832961; decimalLongitude: 11.8704871; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6.viii.2003; sex: 1 female; collectionID: AMSUB005180; occurrenceID: 96619D56-2A15-58E8-9A57-416D3412DFE5

Notes: Recorded in Burgio et al. (2000).

Doros profuges (Harris, 1780)

Material

a. scientificName: *Doros profuges* (Harris, 1780); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 female; collectionID: AMSUB005142; occurrenceID: 64177DDF-927E-5283-83D9-1E02BE3E2399

Notes: Recorded in Burgio et al. (2000).

Epistrophe eligans (Harris, 1780)

Material

a. scientificName: *Epistrophe eligans* (Harris, 1780); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 2 males; collectionID: AMSUB005189, AMSUB005190; occurrenceID: 4ED451B2-B347-5865-9664-321C8256CBCF

Notes: Recorded in Burgio et al. (2000).

Epistrophe flava Doczkal and Schmid, 1994

Notes: Recorded in Burgio et al. (2000).

Epistrophe grossulariae (Meigen, 1822)

Notes: Recorded in Burgio et al. (2000).

Epistrophe nitidicollis (Meigen, 1822)

Notes: Recorded in Burgio et al. (2000).

Episyrphus balteatus (De Geer, 1776)

Materials

a. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male, 1 female; collectionID: AMSUB005009, AMSUB005052; occurrenceID: 5AF576B8-B5F3-5E25-AF56-8BB354E36C62

b. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 female; collectionID: AMSUB005080; occurrenceID: F2A5A251-77C0-5E0B-9F7A-C8D936451633

c. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 2 males, 5 females; collectionID: AMSUB005093, AMSUB005094, AMSUB005095, AMSUB005096, AMSUB005097, AMSUB005098, AMSUB005099; occurrenceID: 1BCBFA71-536D-5306-8E54-5F45850FC172

d. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 male; collectionID: AMSUB005138; occurrenceID: D6B7C3CC-6B04-5B66-A3AD-C588F85C746B

e. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005161; occurrenceID: BBCC08A6-1762-516A-B269-D6DE6E234710

f. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 3 males, 8 females; collectionID: AMSUB005293, AMSUB005294, AMSUB005295, AMSUB005296, AMSUB005297, AMSUB005298, AMSUB005299, AMSUB005300, AMSUB005301, AMSUB005302, AMSUB005303; occurrenceID: 66267BBB-E410-5E19-A95E-AF5612487F66

g. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 3 females; collectionID: AMSUB005320, AMSUB005321, AMSUB005322; occurrenceID: A1BBD33D-48EC-5051-8F6B-99089588C2FB

h. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005325; occurrenceID: 31DE3AAB-7EC0-5F72-B8C3-CB6AA0CE302E

i. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate:

12.viii.2023; sex: 1 female, 6 exx; occurrenceID: 925401BB-FFEF-53C2-BE74-7A6BAB49B013

j. scientificName: *Episyrphus balteatus* (De Geer, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI); decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 17.ix.2023; sex: 1 ex; occurrenceID: 77D77A38-8680-57E9-872A-8D3D91C96222

Notes: Recorded in Burgio et al. (2000).

Eriozona syrphoides (Fallén, 1817)

Material

a. scientificName: *Eriozona syrphoides* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005154; occurrenceID: FFA99246-53EE-5060-B912-8920FE0B34D0

Eristalinus taeniops (Wiedemann, 1818)

Material

a. scientificName: *Eristalinus taeniops* (Wiedemann, 1818); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC); decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 12.viii.2023; occurrenceID: 667040A9-034A-54F5-AC6D-6826E82B6404

Eristalis arbustorum (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Eristalis pertinax (Scopoli, 1763)

Materials

a. scientificName: *Eristalis pertinax* (Scopoli, 1763); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 2 males; collectionID: AMSUB005269, AMSUB005270; occurrenceID: 779C5D77-2373-5277-9E13-4B705B24ABB3

b. scientificName: *Eristalis pertinax* (Scopoli, 1763); order: Diptera; family: Syrphidae; country: Italy; locality: PNFCFangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 23.vii.1994; sex: 1 female; collectionID: AMSUB005349; occurrenceID: 3E1595E0-65F0-51B7-96FF-FC6D6E11AA0A

c. scientificName: *Eristalis pertinax* (Scopoli, 1763); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 male; collectionID: PNFCC000010; occurrenceID: A2F67C94-5456-5E6A-ABFB-7E11858548AE

Notes: Recorded in Burgio et al. (2000).

Eristalis similis (Fallén, 1817)

Materials

a. scientificName: *Eristalis similis* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male; collectionID: AMSUB005271; occurrenceID: 7EFB641A-B7BA-5107-961E-5CF92F0900CD

b. scientificName: *Eristalis similis* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 female; collectionID: PNFCC000011; occurrenceID: F48459F5-AFD8-55B2-BA54-1444DCDF2275

c. scientificName: *Eristalis similis* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vii.2023; sex: 1 male; collectionID: PNFCC000012; occurrenceID: 729B3CCD-76DE-5634-9B1B-C998D1E05384

d. scientificName: *Eristalis similis* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 2 males, 1 female; collectionID: PNFCC000013, PNFCC000014, PNFCC000015; occurrenceID: 6CBEDD9E-CDF4-50F5-B720-EA7B7A511718

e. scientificName: *Eristalis similis* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 male; collectionID: PNFCC000016; occurrenceID: 64C6461C-734C-5D34-AF2F-44CB106C53D2

Eristalis tenax (Linnaeus, 1758)

Materials

a. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Fangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 23.vii.1994; sex: 1 male, 1 female; collectionID: AMSUB005348, AMSUB005353; occurrenceID: 2EC63ACF-7DF2-5265-A553-29AA5F06D7F5

b. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFCMonte Falco (FI) 1653m; decimalLatitude: 43.8773;

decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.v.2023; sex: 2 males; collectionID: PNFCC000017, PNFCC000018; occurrenceID: A78881EF-A89B-5E43-BFA8-B11B50CF10FE

c. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 male; collectionID: PNFCC000019; occurrenceID: 03922FEE-D727-505E-82F0-8FDE728D3D0A

d. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vii.2023; sex: 1 male; collectionID: PNFCC000020; occurrenceID: 4897CF2E-A635-5965-8416-6E0D6962E8B9

e. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vii.2023; sex: 1 male; collectionID: PNFCC000021; occurrenceID: EE95C64E-847D-560D-AE03-8D33A1D2207E

f. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 6 males, 1 female; collectionID: PNFCC000022, PNFCC000023, PNFCC000024, PNFCC000025, PNFCC000026, PNFCC000027, PNFCC000028; occurrenceID: 3C9A70CD-497C-5E7A-84EC-66B40110F251

g. scientificName: *Eristalis tenax* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 male, 1 female; collectionID: PNFCC000029, PNFCC000030; occurrenceID: FD32A0CC-89DD-5330-BD61-4AAF822F241A

Notes: Recorded in Burgio et al. (2000).

Eumerus alpinus Rondani, 1857

Notes: Recorded in Burgio et al. (2000).

Eumerus strigatus (Fallén, 1817)

Notes: Recorded in Burgio et al. (2000).

Eupeodes bucculatus (Rondani, 1857)

Material

a. scientificName: *Eupeodes bucculatus* (Rondani, 1857); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological

Net; verbatimEventDate: 12.viii.2023; sex: 1 female; collectionID: PNFCC000031; occurrenceID: 2C576E6C-AADC-501B-912C-E491DDA059E5

Eupeodes corollae (Fabricius, 1794)

Materials

a. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male, 7 females; collectionID: AMSUB005001, AMSUB005002, AMSUB005003, AMSUB005004, AMSUB005005, AMSUB005010, AMSUB005050, AMSUB005051; occurrenceID: 56B12EBC-8A5A-5347-B828-81350DE08440

b. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male, 3 females; collectionID: AMSUB005109, AMSUB005110, AMSUB005111, AMSUB005112; occurrenceID: 3DAB2F03-FA7D-58E7-B912-944874D217B1

c. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 2 males, 6 females; collectionID: AMSUB005130, AMSUB005131, AMSUB005132, AMSUB005133, AMSUB005134, AMSUB005135, AMSUB005136, AMSUB005137; occurrenceID: EC507CFD-A14E-5B6F-BDC5-5EDE2FDF3C18

d. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 4 males; collectionID: AMSUB005155, AMSUB005156, AMSUB005157, AMSUB005158; occurrenceID: E8C9E877-2DD8-5CFE-8BBD-0CEB093EF6BC

e. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005289; occurrenceID: C721F6CD-7339-554F-9715-FBF309A4A00E

f. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 1 female; collectionID: AMSUB005317; occurrenceID: A24ECC8C-2CF2-5EDD-B324-1065DBB7A14D

g. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Piedimonte (FI) m. 500; decimalLatitude: 44.0924; decimalLongitude: 11.5185; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 15.vii.1994; sex: 1 male; collectionID: AMSUB005340; occurrenceID: B353DE3A-3177-50D1-83BC-C1D9E137B97E

h. scientificName: *Eupeodes corollae* (Fabricius, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773;

decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6.v.2023; sex: 1 female; collectionID: PNFCC000032; occurrenceID: 2B554A0D-FC40-5673-A7CE-40D922E4556C

Eupeodes latifasciatus (Macquart, 1829)

Materials

a. scientificName: *Eupeodes latifasciatus* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 2 females; collectionID: AMSUB005011, AMSUB005012; occurrenceID: 1E6DA93E-0457-5064-AA1F-25AFDF674A62

b. scientificName: *Eupeodes latifasciatus* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 female; collectionID: AMSUB005083; occurrenceID: EC9FB3CF-2208-5447-A456-5DFE13C9DE29

c. scientificName: *Eupeodes latifasciatus* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005168; occurrenceID: 2B322A50-2F3C-53CF-9E30-E8145A172BAB

d. scientificName: *Eupeodes latifasciatus* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 2 females; collectionID: AMSUB005290, AMSUB005291; occurrenceID: E4A0CD09-AD89-51C7-895E-2F8A42603667

Notes: Recorded in Burgio et al. (2000).

Eupeodes lucasi (Marcos-Garcia & Laska, 1983)

Notes: Recorded in Burgio et al. (2000).

Eupeodes luniger (Meigen, 1822)

Materials

a. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005049; occurrenceID: AA79845C-28D4-5FD9-9939-588129FC66F1

b. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap;

verbatimEventDate: 9.vii.2004; sex: 1 male; collectionID: AMSUB005081; occurrenceID: 1A051642-1CB7-5183-A5A3-593668255882

c. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 6 males, 3 females; collectionID: AMSUB005113, AMSUB005114, AMSUB005115, AMSUB005116, AMSUB005117, AMSUB005117, AMSUB005118, AMSUB005119, AMSUB005120, AMSUB005121; occurrenceID: 73C8B2E6-9128-562A-B0E9-C9589D9B6B0A

d. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 5 females; collectionID: AMSUB005167, AMSUB005169, AMSUB005170, AMSUB005171, AMSUB005172; occurrenceID: 3362D05A-EDE1-5F5C-9FBF-D04C6C1EB855

e. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male, 2 females; collectionID: AMSUB005286, AMSUB005287, AMSUB005288; occurrenceID: 5035FC79-26DA-5A07-97BD-3A910B55E01E

f. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 2 females; collectionID: AMSUB005315, AMSUB005316; occurrenceID: 3D7C7CC8-5307-5A8A-8CE9-F4C8956B5F90

g. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Le Cullacce Campigna m. 1041; decimalLatitude: 43.8628; decimalLongitude: 11.7527; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 18.vi.1994; sex: 1 female; collectionID: AMSUB005344; occurrenceID: 340F7F2C-3D2D-5841-9336-2C219B810948

h. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000033; occurrenceID: 1617F1CF-CABD-5A22-B31D-42ECF17E6DA5

i. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 male; collectionID: PNFCC000034; occurrenceID: 2EC9EBDB-D252-5603-840E-E75ECE19E3B1

j. scientificName: *Eupeodes luniger* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 female; collectionID: PNFCC000035; occurrenceID: 2E8E78C3-DAA4-58DB-8002-54FE5E2C67B4

Notes: Recorded in Burgio et al. (2000).

Eupeodes nitens (Zetterstedt, 1843)

Notes: Recorded in Burgio et al. (2000).

Fagisyrphus cinctus (Fallén, 1817)

Materials

a. scientificName: *Fagisyrphus cinctus* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 female; collectionID: AMSUB005013; occurrenceID: BE1BC9EF-9E23-53A2-A8BD-5371E672B3AB

b. scientificName: *Fagisyrphus cinctus* (Fallén, 1817); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005125; occurrenceID: F8BF128F-86A7-5356-BB09-9D2AE684ACCE

Notes: Recorded in Burgio et al. (2000).

Ferdinandea cuprea (Scopoli, 1763)

Notes: Recorded in Burgio et al. (2000).

Heringia heringi (Zetterstedt, 1843)

Material

a. scientificName: *Heringia heringi* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 1 male; collectionID: AMSUB005319; occurrenceID: 8B05B333-E72B-5FCF-80D9-352582510D43

Lapposyrphus lapponicus (Zetterstedt, 1838)

Material

a. scientificName: *Lapposyrphus lapponicus* (Zetterstedt, 1838); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Grigiole 800 m; decimalLatitude: 43.832961; decimalLongitude: 11.8704871; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6.viii.2003; sex: 1 female; collectionID: AMSUB005182; occurrenceID: 69AFAE7D-CBEB-5FFC-9C03-64C1A4B3B90A

Notes: Recorded in Burgio et al. (2000).

Leucozona lucorum (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Matsumyia berberina (Fabricius, 1805)

Notes: Recorded in Burgio et al. (2000).

Megasyrphus erraticus (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Melangyna compositarum (Verrall, 1873)

Material

a. scientificName: *Melangyna compositarum* (Verrall, 1873); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000036; occurrenceID: CC365491-2654-5562-AB05-AB94253444E7

Melangyna umbellatarum (Fabricius, 1794)

Notes: Recorded in Burgio et al. (2000).

Melanogaster nuda (Macquart, 1829)

Material

a. scientificName: *Melanogaster nuda* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 7.v.2023; sex: 2 males; collectionID: PNFCC000037, PNFCC000038; occurrenceID: 44439768-2015-5EB1-9A1A-E34368E54335

Melanostoma mellinum (Linnaeus, 1758)

Materials

a. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005055; occurrenceID: 50024436-D43D-574E-84DC-7986F119786E

b. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol:

Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 male; collectionID: AMSUB005128; occurrenceID: CDF21E51-1C14-5ABF-931C-DCC0928BD52B

c. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 female; collectionID: AMSUB005211; occurrenceID: 00ABC36C-2A76-5EBE-A103-F99ABAC97E71

d. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 female; collectionID: PNFCC000039; occurrenceID: 35ADBC4A-B330-570A-A481-BEE9CCB49777

e. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vii.2023; sex: 1 female; collectionID: PNFCC000040; occurrenceID: A328414D-1C14-570E-9992-E7B1CC69D0FF

f. scientificName: *Melanostoma mellinum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vii.2023; sex: 1 male; collectionID: PNFCC000041; occurrenceID: A65F3A77-907B-59B3-B95F-3A7156708E69

Notes: Recorded in Burgio et al. (2000).

Melanostoma scalare (Linnaeus, 1794)

Materials

a. scientificName: *Melanostoma scalare* (Linnaeus, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 female; collectionID: AMSUB005084; occurrenceID: 33AA6573-1EE8-553D-AFFE-3A95C5E09C95

b. scientificName: *Melanostoma scalare* (Linnaeus, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male; collectionID: AMSUB005281; occurrenceID: 4138679B-C9D3-5185-A4FB-54B44FAEBB5C

c. scientificName: *Melanostoma scalare* (Linnaeus, 1794); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 17.ix.2023; sex: 1 female; collectionID: PNFCC000042; occurrenceID: BEB1C05C-7CEF-5A9E-9969-160E4DA49988

Notes: Recorded in Burgio et al. (2000).

Meligramma cingulata (Egger, 1860)

Materials

a. scientificName: *Meligramma cingulata* (Egger, 1860); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8418409; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 3 males; collectionID: AMSUB005185, AMSUB005186, AMSUB005187; occurrenceID: FBA388CD-08AF-515A-BE28-1B04DAD99EAB

b. scientificName: *Meligramma cingulata* (Egger, 1860); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 14 males, 2 females; collectionID: AMSUB005195, AMSUB005196, AMSUB005197, AMSUB005198, AMSUB005199, AMSUB005200, AMSUB005201, AMSUB005202, AMSUB005203, AMSUB005204, AMSUB005205, AMSUB005206, AMSUB005207, AMSUB005208, AMSUB005209, AMSUB005212; occurrenceID: 80AD7A49-39B9-5720-8537-F24A46EE7CDB

Notes: Recorded in Burgio et al. (2000).

Meliscaeva auricollis (Meigen, 1822)

Materials

a. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 3 males; collectionID: AMSUB005028, AMSUB005029, AMSUB005030; occurrenceID: D4E5CB2B-B0F1-514B-A4CA-15219B722954

b. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 3 males; collectionID: AMSUB005031, AMSUB005032, AMSUB005033; occurrenceID: E924A424-5C6E-5856-9123-74376EEF18DD

c. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 5 males; collectionID: AMSUB005065, AMSUB005066, AMSUB005067, AMSUB005068, AMSUB005069; occurrenceID: 1AD721EC-9F1E-5A03-BC87-A22F4BA36F65

d. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 3 males; collectionID: AMSUB005101, AMSUB005102, AMSUB005103; occurrenceID: FB283696-BFB5-5CDE-9F68-A16F5D819DB7

e. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943;

decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 3 males; collectionID: AMSUB005164, AMSUB005165, AMSUB005166; occurrenceID: AC587372-01E8-5488-87F3-2CC10CE13C60

f. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male; collectionID: AMSUB005277; occurrenceID: 215AD1EC-1279-5CB0-A321-00ECAA4BB7F4

g. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 11.vi.2023; sex: 1 female; collectionID: PNFCC000043; occurrenceID: C50AF17F-36E9-548E-A915-5DBCFBDEF756

h. scientificName: *Meliscaeva auricollis* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 12.vi.2023; sex: 3 males, 1 female; collectionID: PNFCC000044, PNFCC000045, PNFCC000046, PNFCC000047; occurrenceID: DB09B89D-0695-5DCC-A16F-242C1274D9D6

Notes: Recorded in Burgio et al. (2000).

Meliscaeva cinctella (Zetterstedt, 1843)

Materials

a. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 12 males, 3 females; collectionID: AMSUB005034, AMSUB005035, AMSUB005036, AMSUB005037, AMSUB005038, AMSUB005039, AMSUB005040, AMSUB005041, AMSUB005042, AMSUB005043, AMSUB005044, AMSUB005045, AMSUB005046, AMSUB005047, AMSUB005048; occurrenceID: 56B5D639-9E6F-55B9-BAD7-70F54A818015

b. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 4 males, 5 females; collectionID: AMSUB005070, AMSUB005071, AMSUB005072, AMSUB005073, AMSUB005074, AMSUB005075, AMSUB005076, AMSUB005077, AMSUB005078; occurrenceID: F4156413-EBDE-50E0-8BD1-63ADF20FA012

c. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 4 males, 1 females; collectionID: AMSUB005104, AMSUB005105, AMSUB005106, AMSUB005107, AMSUB005108; occurrenceID: 6E8C5E70-166C-568E-A875-40B10735251C

d. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Vetreria; decimalLatitude:

43.829961; decimalLongitude: 11.8418409; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 male; collectionID: AMSUB005184; occurrenceID: 4461B541-DCA5-5AB2-93DA-99884411A3BD

e. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 male, 1 female; collectionID: AMSUB005213, AMSUB005213; occurrenceID: A7D9067A-30D2-5A5F-B75F-5F40C754BC4A

f. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male, 4 females; collectionID: AMSUB005272, AMSUB005273, AMSUB005274, AMSUB005275, AMSUB005277; occurrenceID: A08CB63A-B465-58DF-BA1E-F4C85C8AE52D

g. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 1 female; collectionID: AMSUB005323; occurrenceID: 42E75EF7-76E6-5FA7-ACB2-1FE84B5748B2

h. scientificName: *Meliscaeva cinctella* (Zetterstedt, 1843); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005324; occurrenceID: 9215D765-7186-59E2-8AC4-582D099A68B3

Notes: Recorded in Burgio et al. (2000).

Merodon aberrans Egger, 1860

Notes: Recorded in Burgio et al. (2000).

Merodon aureus Fabricius, 1805

Material

a. scientificName: *Merodon aureus* Fabricius, 1805; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 male; collectionID: PNFCC000048; occurrenceID: D105BAE2-3F72-502D-9437-F33629AA467F

Notes: Recorded in Burgio et al. (2000).

Microdon analis (Macquart, 1842)

Material

a. scientificName: *Microdon analis* (Macquart, 1842); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap;

verbatimEventDate: 26.v-6.vi.2003; sex: 2 females; collectionID: AMSUB005191, AMSUB005192; occurrenceID: 1B23A56F-928C-539F-81AA-AAC2FA0A047C

Microdon mutabilis (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Myathropa florea (Linnaeus, 1758)

Materials

a. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 female; collectionID: AMSUB005057; occurrenceID: 29BCA54C-7C82-5A3C-A9EC-D2C319270CBA

b. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Fangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 23.vii.1994; sex: 2 females; collectionID: AMSUB005350, AMSUB005351; occurrenceID: 85F05C32-72A2-559E-B885-75DB33389704

c. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 7.v.2023; sex: 1 female; collectionID: PNFCC000049; occurrenceID: 9C28303C-1729-5DAE-86AA-33C9C3A87107

d. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 2 males, 1 female; collectionID: PNFCC000050, PNFCC000051, PNFCC000052; occurrenceID: FFEE1143-5132-50F3-9226-8BFDA3F670B2

e. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 male; collectionID: PNFCC000053; occurrenceID: BC54D6B3-34E3-5686-A98F-85F5DDDD2429

f. scientificName: *Myathropa florea* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 male, 1 female; collectionID: PNFCC000054; occurrenceID: F628827A-C6B6-55D4-A2BA-E372C35EF219

Notes: Recorded in Burgio et al. (2000).

Neoascia annexa (Müller, 1776)

Notes: Recorded in Burgio et al. (2000).

Neoascia podagrica (Fabricius, 1775)

Notes: Recorded in Burgio et al. (2000).

Parasyrphus lineola (Zetterstedt, 1843)

Notes: Recorded in Burgio et al. (2000)

Parasyrphus macularis (Zetterstedt, 1843)

Notes: Recorded in Burgio et al. (2000).

Parasyrphus punctulatus (Verrall, 1873)

Materials

a. scientificName: *Parasyrphus punctulatus* (Verrall, 1873); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 female; collectionID: AMSUB005059; occurrenceID: 8A82571C-8C45-53B1-A0F3-EB613222914A

b. scientificName: *Parasyrphus punctulatus* (Verrall, 1873); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 female; collectionID: AMSUB005060; occurrenceID: 89F79066-8828-5181-84D8-A7C2C8EE8693

Notes: Recorded in Burgio et al. (2000).

Pipiza festiva Meigen, 1822

Material

a. scientificName: *Pipiza festiva* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Palazzuolo sul Senio (FI) 400 m; decimalLatitude: 44.1135; decimalLongitude: 11.5468; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: ix.91; sex: 1 female; collectionID: AMSUB005345; occurrenceID: D7CFACB7-DD73-5B1D-A556-C4B3E3FD2A34

Pipiza noctiluca (Linnaeus, 1758)

Material

a. scientificName: *Pipiza noctiluca* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 female; collectionID: AMSUB005058; occurrenceID: CE1655CB-DED3-59C7-8A6D-04A7BF098F1B

Pipizella annulata (Macquart, 1829)

Notes: Recorded in Burgio et al. (2000).

Pipizella elegantissima Lucas, 1976

Material

a. scientificName: *Pipizella elegantissima* Lucas, 1976; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Burraia (FC) m. 1500; decimalLatitude: 43.8657; decimalLongitude: 11.7347; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 16.vii.1994; sex: 1 male; collectionID: AMSUB005352; occurrenceID: 1202C56F-FEC2-5779-8BC6-89FB39205C95

Notes: Recorded in Burgio et al. (2000).

Platycheirus albimanus (Fabricius, 1781)

Materials

a. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005054; occurrenceID: 8B5B8648-0898-5CBB-A1F9-6E2A09985E38

b. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005127; occurrenceID: 1DE6F155-9097-5456-A5E8-77D000A4B5FC

c. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male; collectionID: AMSUB005285; occurrenceID: DA4755AD-E671-57F5-8203-FF18DF1AF3D0

d. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 5 females; collectionID: AMSUB005305, AMSUB005306, AMSUB005307, AMSUB005308, AMSUB005309; occurrenceID: CB543B58-8483-5EA5-81E4-B7C5669C3B26

e. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.v.2023; sex: 20 females; collectionID: PNFCC000056, PNFCC000057, PNFCC000058, PNFCC000059, PNFCC000060, PNFCC000061, PNFCC000062, PNFCC000063, PNFCC000064, PNFCC000065, PNFCC000066, PNFCC000067, PNFCC000068, PNFCC000069, PNFCC000070, PNFCC000071, PNFCC000072, PNFCC000073, PNFCC000074, PNFCC000075; occurrenceID: D506C1CC-4BC9-54EF-A628-A9769C2E36B3

f. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 females; collectionID: PNFCC000076, PNFCC000077, PNFCC000078, PNFCC000079, PNFCC000080, PNFCC000081, PNFCC000082; occurrenceID: EC5E1E69-74B8-51AA-A06D-61E9818D5B77

g. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 11.vi.2023; sex: 2 exx; occurrenceID: 1C19EFFF-E1EF-55AB-BADE-B19C76548B00

h. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 female; collectionID: PNFCC000083; occurrenceID: 25C2557C-BAF0-5E33-BFD8-DB82F03BB0D1

i. scientificName: *Platycheirus albimanus* (Fabricius, 1781); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 male; collectionID: PNFCC000084; occurrenceID: 5607C70D-4EAA-58FE-B317-F6D9A25CBF04

Notes: Recorded in Burgio et al. (2000).

Platycheirus fulviventris (Macquart, 1829)

Material

a. scientificName: *Platycheirus fulviventris* (Macquart, 1829); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 female; collectionID: AMSUB005085; occurrenceID: 9451E68A-6179-50A0-ACB9-287D1ECEB1C5

Platycheirus immaculatus Ohara, 1980

Material

a. scientificName: *Platycheirus immaculatus* Ohara, 1980; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8418409; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 male; collectionID: AMSUB005188; occurrenceID: 7E697C38-76D1-5ECE-A68E-1CE9E492F92B

Platycheirus scutatus (Meigen, 1822)

Materials

a. scientificName: *Platycheirus scutatus* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 female; collectionID: AMSUB005129; occurrenceID: 0B407DFC-9F7E-55F9-BA94-468F80E5FCE0

b. scientificName: *Platycheirus scutatus* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005173; occurrenceID: CB6B6C03-2DF7-510A-BCD5-7C1EB3AFFA22

c. scientificName: *Platycheirus scutatus* (Meigen, 1822); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9495; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 7.v.2023; sex: 2 males; collectionID: PNFCC000085, PNFCC000086; occurrenceID: 8BFD314D-C273-53E2-BFD8-FCBDC7F038B2

Notes: Recorded in Burgio et al. (2000).

Rhingia rostrata (Linnaeus, 1758)

Material

a. scientificName: *Rhingia rostrata* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 26.v-6.vi.2003; sex: 1 female; collectionID: AMSUB005194; occurrenceID: 9EFEBA0E-85BA-5D2D-8765-727FE401B8A7

Scaeva pyrastri (Linnaeus, 1758)

Material

a. scientificName: *Scaeva pyrastri* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005162; occurrenceID: 8D9D46D9-DB84-5049-8642-E3AC541B0D2E

Notes: Recorded in Burgio et al. (2000).

Scaeva selenitica (Meigen, 1822)

Notes: Recorded in Burgio et al. (2000).

Sericomyia bombiformis (Fallén, 1810)

Notes: Recorded in Burgio et al. (2000).

Sericomyia superbiens (Müller, 1776)

Material

a. scientificName: *Sericomyia superbiens* (Müller, 1776); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Piedimonte (FI) m. 500; decimalLatitude: 44.0924; decimalLongitude: 11.5185; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 20.viii.1994; sex: 1 male; collectionID: AMSUB005328; occurrenceID: D6F26FF6-76E8-5CE9-8152-DA9CE8650473

Notes: Recorded in Burgio et al. (2000).

Sphaerophoria laurae Goeldlin, 1989

Material

a. scientificName: *Sphaerophoria laurae* Goeldlin, 1989; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 male; collectionID: AMSUB005278; occurrenceID: 346F0829-DACE-5F5D-9EAC-DB8D6ABBF73C

Sphaerophoria scripta (Linnaeus, 1758)

Materials

a. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 3 males, 4 females; collectionID: AMSUB005006, AMSUB005007, AMSUB005008, AMSUB005017, AMSUB005018, AMSUB005019, AMSUB005020; occurrenceID: A68FEBBA-D616-599C-9817-C58D2A37FFAC

b. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 2 males, 1 female; collectionID: AMSUB005025, AMSUB005026, AMSUB005100; occurrenceID: 2C6D4AC1-FE7E-516E-8668-C49FF5CBB142

c. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005053; occurrenceID: CBFD5A8D-9DE5-5884-9290-88AF832E4AD8

d. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude:

43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 male; collectionID: AMSUB005082; occurrenceID: 9083BA6C-3195-5972-8F98-919DC021D654

e. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 30.vi.2004; sex: 1 male; collectionID: AMSUB005139; occurrenceID: ED347E81-7BAF-533C-B8D5-558B306CA33B

f. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005163; occurrenceID: 36ADB1D2-BF9A-57C8-9D8F-1FE0D0B14C36

g. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 2 females; collectionID: AMSUB005279, AMSUB005280; occurrenceID: E593D23D-0335-5845-BDDD-709226977B7F

h. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Vetreria; decimalLatitude: 43.829961; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 1 female; collectionID: AMSUB005327; occurrenceID: 27228BFE-42D7-5032-9BBA-D82E1AECA5A8

i. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Fangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 9.v.1994; sex: 1 female; collectionID: AMSUB005341; occurrenceID: 1CE211B5-7670-531A-BECB-BB5B04460CFC

j. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC La stretta (FC); samplingProtocol: Entomological Net; verbatimEventDate: 8.vii.1994; sex: 1 female; collectionID: AMSUB005342; occurrenceID: 02CA1AEF-D010-5AC3-936F-04D8D9806EF2

k. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 7.v.2023; sex: 3 males, 1 female; collectionID: PNFCC000087, PNFCC000088, PNFCC000089, PNFCC000090; occurrenceID: B53FB91E-E7F8-5648-A891-66FFF242F4BF

l. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 2 females; collectionID: PNFCC000091, PNFCC000092; occurrenceID: 79580377-D207-50C8-949F-7A6A6C99B25E

m. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 2 males, 6 females; collectionID: PNFCC000093, PNFCC000094, PNFCC000095, PNFCC000096, PNFCC000097,

PNFCC000098, PNFCC000099, PNFCC000100; occurrenceID: F5206453-B631-5544-89B2-A76159C0E4B2

n. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vii.2023; sex: 2 males, 1 female; collectionID: PNFCC000101, PNFCC000102, PNFCC000103; occurrenceID: CF92CC6E-D795-58DC-90E0-90FD64D9E04A

o. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vii.2023; sex: 7 males, 2 females; collectionID: PNFCC000104, PNFCC000105, PNFCC000106, PNFCC000107, PNFCC000108, PNFCC000109, PNFCC000110, PNFCC000111, PNFCC000112; occurrenceID: C6B4AA44-1E40-5AC6-A94A-7365DEC5CB3A

p. scientificName: *Sphaerophoria scripta* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 2 females; collectionID: PNFCC000113, PNFCC000114; occurrenceID: 4D7D4055-25AA-5860-B1FF-5BBD33054144

Notes: Recorded in Burgio et al. (2000).

Sphegina clunipes (Fallén, 1816)

Notes: Recorded in Burgio et al. (2000).

Sphegina verecunda Collin, 1937

Notes: Recorded in Burgio et al. (2000).

Syritta pipiens (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Syrphus nitidifrons Becker, 1921

Notes: Recorded in Burgio et al. (2000).

Syrphus ribesii (Linnaeus, 1758)

Materials

a. scientificName: *Syrphus ribesii* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 male; collectionID: AMSUB005122; occurrenceID: DA88A577-0AD6-5EE8-A120-B9BC070909C4

b. scientificName: *Syrphus ribesii* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Bertesca; decimalLatitude: 43.8314943; decimalLongitude: 11.8735824; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 1 female; collectionID: AMSUB005159; occurrenceID: CB4C508B-0EF5-5114-9452-1F35272D71E2

c. scientificName: *Syrphus ribesii* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Fangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 23.vii.1994; sex: 1 female; collectionID: AMSUB005343; occurrenceID: B31DAAFF-0B9B-58A7-A674-F84E93E98F8C

d. scientificName: *Syrphus ribesii* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 1 male; collectionID: PNFCC000115; occurrenceID: 23E8404F-F211-551F-8AB0-6DCED938E3B7

Notes: Recorded in Burgio et al. (2000).

Syrphus torvus Osten-sacken, 1875

Materials

a. scientificName: *Syrphus torvus* Osten-sacken, 1875; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Fangacci (FC) 1400; decimalLatitude: 43.8103; decimalLongitude: 11.8489; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 23.vii.1994; sex: 1 male; collectionID: AMSUB005343; occurrenceID: F2A0D0CF-7A61-57F0-9217-70B712EEC8F2

b. scientificName: *Syrphus torvus* Osten-sacken, 1875; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.v.2023; sex: 3 females; collectionID: PNFCC000116, PNFCC000117, PNFCC000118; occurrenceID: E06BA5E4-6ADD-54EE-B52C-C400E954B680

c. scientificName: *Syrphus torvus* Osten-sacken, 1875; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.vi.2023; sex: 1 male; collectionID: PNFCC000119; occurrenceID: 2AD1076E-44D3-5697-9B1F-009CA6205525

d. scientificName: *Syrphus torvus* Osten-sacken, 1875; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 6 males, 3 females; collectionID: PNFCC000120, PNFCC000121, PNFCC000122, PNFCC000123, PNFCC000124, PNFCC000125, PNFCC000126, PNFCC000127, PNFCC000128; occurrenceID: 7BD5759A-D9A0-5B35-8026-598964C14CE8

e. scientificName: *Syrphus torvus* Osten-sacken, 1875; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 male, 1 female; collectionID: PNFCC000129, PNFCC000130; occurrenceID: 07625D28-3F2D-5BCD-A3B6-4E2E7EA68CAE

Syrphus vitripennis Meigen, 1822

Materials

a. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 27.vii.2004; sex: 2 males; collectionID: AMSUB005123, AMSUB005124; occurrenceID: E229CFE2-25F7-57E4-87EC-F4514BD361CB

b. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 3-14.vii.2003; sex: 17 males, 11 females; collectionID: AMSUB005242, AMSUB005243, AMSUB005244, AMSUB005245, AMSUB005246, AMSUB005247, AMSUB005248, AMSUB005249, AMSUB005250, AMSUB005251, AMSUB005252, AMSUB005253, AMSUB005254, AMSUB005255, AMSUB005256, AMSUB005257, AMSUB005258, AMSUB005259, AMSUB005260, AMSUB005261, AMSUB005262, AMSUB005263, AMSUB005264, AMSUB005265, AMSUB005266,AMSUB005267, AMSUB005268, AMSUB005282; occurrenceID: 29C343AD-88CA-5CE5-BE61-B72764F1EDA6

c. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 5 females; collectionID: AMSUB005310, AMSUB005311, AMSUB005312, AMSUB005313, AMSUB005314; occurrenceID: 197D79F4-92CB-5565-8945-E3CA2B480627

d. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.v.2023; sex: 1 male; collectionID: PNFCC000131; occurrenceID: CF1748BB-CEE6-5F4F-BAA9-04C6E0FD4017

e. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vi.2023; sex: 5 males, 3 females; collectionID: PNFCC000132, PNFCC000133, PNFCC000134, PNFCC000135, PNFCC000136, PNFCC000137, PNFCC000138, PNFCC000139, PNFCC000140; occurrenceID: 935F039E-D2DB-5DB4-BA6A-B99B5A5E8752

f. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.vii.2023; sex: 1 female; collectionID: PNFCC000141; occurrenceID: 78AB8524-01F6-5BFE-8173-2DD2E933D785

g. scientificName: *Syrphus vitripennis* Meigen, 1822; order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 male, 2 females; collectionID: PNFCC000142, PNFCC000143, PNFCC000144; occurrenceID: 8F23F0A2-C4B0-599F-957A-1B9AEB69C568

Notes: Recorded in Burgio et al. (2000).

Volucella bombylans (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Volucella inanis (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Volucella inflata (Fabricius, 1794)

Notes: Recorded in Burgio et al. (2000).

Volucella pellucens (Linnaeus, 1758)

Materials

a. scientificName: *Volucella pellucens* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 11.viii.2023; sex: 2 exx; occurrenceID: 0B5E7EBB-28AA-54C4-9283-2E36952A9E13

b. scientificName: *Volucella pellucens* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Monte Falco (FI) 1653m; decimalLatitude: 43.8773; decimalLongitude: 11.7107; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 11.viii.2023; sex: 1 female; collectionID: PNFCC000145; occurrenceID: 6BE9BC53-FEF4-56F3-9D49-4F82CA9F577D

Notes: Recorded in Burgio et al. (2000).

Volucella zonaria (Poda, 1761)

Materials

a. scientificName: *Volucella zonaria* (Poda, 1761); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 12.viii.2023; sex: 1 male, 1 female; collectionID: PNFCC000146, PNFCC000147; occurrenceID: 03F15E09-D5C4-5D74-8E32-06BE0487E8D3

b. scientificName: *Volucella zonaria* (Poda, 1761); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Bucine (FC) 907m; decimalLatitude: 43.9594; decimalLongitude: 11.7097; geodeticDatum: WGS84; samplingProtocol: Observation; verbatimEventDate: 12.viii.2023; sex: 1 ex; occurrenceID: CBB39772-E393-552C-87A2-6D3E99546C27

Notes: Recorded in Burgio et al. (2000).

Xanthandrus comtus (Harris, 1780)

Materials

a. scientificName: *Xanthandrus comtus* (Harris, 1780); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Fonte Cavalla; decimalLatitude: 43.8238539; decimalLongitude: 11.8835054; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 18.v-8.vi.2004; sex: 1 male; collectionID: AMSUB005056; occurrenceID: 99DF4FE1-BD06-589E-BF4F-4372F979ECA9

b. scientificName: *Xanthandrus comtus* (Harris, 1780); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 1 female; collectionID: AMSUB005304; occurrenceID: DD1B6987-5D56-5EB2-9ED2-B89E22FAC25F

Notes: Recorded in Burgio et al. (2000).

Xanthogramma pedissequum (Harris, 1780)

Notes: Recorded in Burgio et al. (2000).

Xylota segnis (Linnaeus, 1758)

Notes: Recorded in Burgio et al. (2000).

Xylota sylvarum (Linnaeus, 1758)

Materials

a. scientificName: *Xylota sylvarum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama P. Saporita; decimalLatitude: 43.821774; decimalLongitude: 11.8802281; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 9.vii.2004; sex: 1 male; collectionID: AMSUB005079; occurrenceID: DE07ECD7-37A0-50D2-9585-7B4844EF8471

b. scientificName: *Xylota sylvarum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Foresta Lama Stazione Prati; decimalLatitude: 43.8313707; decimalLongitude: 11.8380049; geodeticDatum: WGS84; samplingProtocol: Malaise Trap; verbatimEventDate: 6-16.viii.2003; sex: 1 male; collectionID: AMSUB005318; occurrenceID: E9B52FAD-5E36-5245-9232-D70381B186AB

c. scientificName: *Xylota sylvarum* (Linnaeus, 1758); order: Diptera; family: Syrphidae; country: Italy; locality: PNFC Piedimonte (FI) m. 500; decimalLatitude: 44.0924; decimalLongitude: 11.5185; geodeticDatum: WGS84; samplingProtocol: Entomological Net; verbatimEventDate: 6.viii.1994; sex: 1 female; collectionID: AMSUB005329; occurrenceID: 3B116EAD-36B9-5291-A201-5F29536A9659

Notes: Recorded in Burgio et al. (2000).

Xylota tarda Meigen, 1822

Notes: Recorded in Burgio et al. (2000).

Xylota xanthocnema Collin, 1939

Notes: Recorded in Burgio et al. (2000).

Discussion

A total of 116 species from FCNP are listed in the present revision, including 25 new recorded species, which considerably update the previous fauna list (Burgio et al. 2000). The new recordings for the FCNP are (in alphabetic order): *Callicera aurata*, *Cheilosia melanura*, *Cheilosia proxima*, *Cheilosia ranunculi*, *Chrysotoxym intermedium*, *Chrysotoxum octomaculatum*, *Chrysotoxum vernale*, *Dasysyrphus friulensis*, *Dasysyrphus venustus*, *Eriozona syrphoides*, *Eristalinus taeniops*, *Eristalis similis*, *Eupeodes bucculatus*, *Eupeodes corollae*, *Heringia heringi*, *Melangyna compositarum*, *Melanogaster nuda*, *Microdon analis*, *Pipiza festiva*, *Pipiza noctiluca*, *Platycheirus fulviventris*, *Platicheirus immaculatus*, *Rhyngia rostrata*, *Syrphus torvus* and *Sphaerophoria laurae*. Twelve of these species have been recorded along transects using entomological nets in 2023, twelve using Malaise traps in 2003 and 2004, while four have been collected by G. Campadelli. The fauna of FCNP, reported in this revision, includes several species of conservation interest or whose recording are an updating of Italian Syrphidae regional list in progress (Sommaggio et al., unpublished data). The following species are new records for Emilia-Romagna Region: *Microdon analis* and *Sphaerophoria laurae*, while *Cheilosia melanura*, *C. proxima*, *Dasysyrphus friulensis*, *Melangyna compositarum* and *Pipiza festiva* are new species records for Toscana Region. Particularly interesting is the presence of a group of species largely distributed in the Alps, but rare or, to date, usually absent from the Apennines. *Sphaerophoria laurae* is the most representative species of this group; this syrphid is known in Europe from Scandinavia and from mountains (in particular Alps and Pyrenees) where it is usually found in alpine grasslands from 2000 m upwards (Speight 2020). In Italy, this species has been recorded only from some localities in the Alps (Romig 2008, Sommaggio 2005, Sommaggio et al. 2023Romig 2008,) . The specimen collected at Stazione Prati (Casa Forestale Lama) by Malaise trap is a particularly interesting record because it is significantly below the altitude where this species is usually found (usually over 1500 m). Other species recorded within FCNP, that are typical of the Alps are:

- *Cheilosia melanura*: this species is associated with unimproved grassland in mountain areas. In Italy, it has been recorded from the Alps (where it is not rare), while, in the Apennines, it was previously recorded from Lazio Region (Paniccia 2016). In Europe, it is present in the Alps, Carpathians, mountain areas in the Balkans and Caucasus (Speight 2020).

- *Chrysotoxum fasciolatum*: this species is usually associated with open areas in *Fagus*/*Picea* woods. Although it has already been recorded from central Italy (e.g. Birtele et al. (2003), Sommaggio (2005)), this is a rare species south of the Alps.

- *Dasysyrphus friulensis*: as the previous species, it is not rare in the Alps, this record in FCNP being the first one south of the Alps.

- *Eriozona syrphoides*: previously recorded south of the Alps only by Burgio and Daccordi (1997) in a locality of the Apennines (Emilia Romagna Region).

- *Melangyna compositarum*: in Italy, this species has been recorded only in the Alps (Sommaggio 2005), where it is not rare. The European distribution of this Holarctic species is from Fennoscandia to Central Europe and from northern Spain to the Urals; the Alps were previously considered as the southern border of this species (Speight 2020).

- *Platycheirus immaculatus*: this species has been recorded in Italy only from two localities (one in Trentino Alto Adige Region, the other in Emilia Romagna, unpublished data); it is usually associated with *Fagus*/*Picea* woods and Speight (2020) considers the Alps as the southern border of its distribution in Europe.

- *Eupeodes bucculatus*: this is not a strictly Alpine species; however, most of Italian record of this species are from the North (Sommaggio 2005). It was previously recorded also from peninsular Italy (e.g. Birtele et al. (2003), Paniccia and Toma (2015), Paniccia (2016)), but it is not considered a common species. The record of this species for Sicily (Rondani 1868, Bezzi and De Stefani-Perez 1897) should be confirmed since there is confusion about its identity (Sforzi and Sommaggio 2021).

The particular peculiar climatic conditions in FCNP, with high rainfall, cold winters and cool summers (Padula and Crudele 1988), could create microclimate areas comparable to those of the Alps. In such conditions, northern species could find the climatic condition to survive with residual populations. Viciani et al. (2010) and Viciani and Alberti (2024) underline the presence in FCNP of plants typical of the Alps, even if, from a vegetational point of view, the Park is more similar to other sites in the peninsular Apennines than to Northern Apennines or Alps. Worthy of attention would be to know whether a similar trend could occur for other animal taxa.

Currently, the hoverfly fauna of FCNP (116 species) corresponds approximately to one fifth of Italian fauna (536 species). In the FCNP fauna, 13 species with xylosaprophagous larvae have been recorded, representing 15% of the total Italian saproxylic fauna of hoverflies, although deciduous forests are amongst the most abundant and best-preserved habitats in the Park. It is worth noting that several xylosaprophagous species are elusive and/or early spring species easily recorded with specific sampling (Maritano et al. 2024). Most of the xylosaprophagous species recorded in the FCNP are common species with low ecological requirements, such as, for example, *Xylota segnis* and *Ferdinandea cuprea*. A few species are uncommon, at least in Italy, such as *Criorhina asilica*, *Criorhina floccosa* and *Brachyopa pilosa*. Of particular interest are the records in

2023 of two specimens of *C. aurata*. The larvae of this species develop in rot-holes of large, senescent trees of *Fagus*, *Quercus* and *Fraxinus* (Speight 2020). The low development of larvae (2/3 years are necessary to complete the development) and the high ecological requirements make this species particularly vulnerable and considered as threatened in the continent following the recent Red List of European Syrphidae (Vujić et al. 2022). Worthy of mention is also the recording of *Doros profuges*, a species associated with old deciduous forests; the larva is probably an ant commensal, likely with *Lasius fuliginosus* (Latreille) (Speight 2020). Even if recorded from several Italian regions (Sommaggio 2005), this species is considered uncommon in Italy. Three out of the 116 species globally recorded until now in FCNP have been included in threatened categories in the Red List of European Syrphidae (Vujić et al. 2022). In addition to the aforementioned *C. aurata*, it is included within such categories also *Pipizella elegantissima*, which has been included in the Endangered category by Vujić et al. (2022) mainly based on the very few and scattered known records of this species. To date, *P. elegantissima* has been recorded from a locality in French Alps, from Calabria and from FCNP. Interestingly, this species was recorded in FCNP by Burgio et al. (2000) and it has been confirmed by a recent observation. Little is known about the biology of this species; the larva is probably aphidiphagous like other Pipizinae species, but the prey is unknown (Speight 2020). The species seems to be associated with beech woodlands. It is necessary to increase knowledge on the biology of this species in order to better plan conservation interventions of existing populations. Like *Microdon analis* (included in the Near Threatened category by Vujić et al. (2022)), also the threatened *M. mutabilis* has myrmecophilous larvae, but the host of this species belongs probably to *Formica* genus and is associated with well-preserved grassland on calcareous substrates.

FCNP has been considered a focus site within “National Biodiversity Future Center” (National Recovery and Resilience Plan, NRRP) and is currently included within the national pollinator monitoring programme (Italy). This Park is a natural area of considerable extension and conservation interest and recordings reported from this revision can be useful for future studies focused on the temporal and spatial trends of biodiversity based on hoverflies. This revision, therefore, constitutes an updating of the hoverfly fauna of Foreste Casentinesi National Park, supplying data for the Italian Regional Checklist that is currently in progress. The present checklist of Syrphidae species in FCNP is surely far from representing the whole hoverfly biodiversity of this wide protected area, because old and recent data only cover a very limited area of the Park. For example, extensive sampling of hoverflies in Dolomiti Bellunesi National Park, using a large sampling effort and multiple sampling techniques, detected more than 200 species (Sommaggio et al. 2023), despite the small extension of the Park (less than half of FCNP). Only a part of the habitats included in FCNP has been sampled for hoverfly fauna; therefore, more research is needed to better understand the biodiversity of this important protected area which, based on the data here reported, shows characteristics of Alpine fauna.

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